ISSN—0566-2572

University News

ONDAY, NOVEMBER 13, 1989 Rs. 2.50

d Convocation of the Thapar Institute of Engg. and Technology (TIET). From L to R : Prof. T.R. Anantharaman, Director, TIET, Mr. I.P. Anand, Chairman, Board of Governors, TIET and Dr. V.S. Arunachalam, Scientific Advisor to Defence Minister, who delivered the Convocation Address.

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NOTE :

(i) The applications will be screened by the Committee to be appointed by the Vice-Chancellor. The Screening Committee will be competent to screen applicants and classify them on the basis of qualifications and experience and call for interview only the selected candidates.

(ii) It shall not be obligatory on the part of the University to call for interview every candidate who possesses the essential qualifications.

(iii) Number of posts may change.

(iv) It shall be open to the University to consider the names of distinguished person(s), who may not have applied, for the posts of Prof. in Computer Science and Applications and Director, Regional Centre, Rewari, on the basis of bio-data.

(v) It is not necessary to fill any/all of the advertised vacancies. Convassing will be disqualification.

Dr. L.N. Dahiya
REGISTRAR

18 JAN 1990

UNIVERSITY NEWS

VOL. XXVII NOVEMBER 13
No. 46 1989
Price Rs. 2.50

A Weekly Chronicle of Higher Education published by the Association of Indian Universities

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TINDER SINGH

UNIVERSITIES OF HEALTH SCIENCES

Lingam Suryanarayana*

Andhra Pradesh has the distinction of establishing the first University of Health Sciences fulfilling long standing desire of medical teachers of India.

Universities are established to train people to think about human problems. Adequate thinking has been done about medical and health education by commissions appointed by Government of India and forums of teachers like Indian Academy for Advancement of Medical Education, Indian Medical Association and the Medical Council of India for decades but instruments of implementation were lacking and the will to establish such institutions was not evident at decision making levels of state and central governments.

University of Health Sciences of Andhra Pradesh is established to implement medical health educational policies of national advisory and regulatory bodies and in the process mould them as suited to epidemiology of various regions of Andhra Pradesh.

It has been said that "Medical Education is more education than medicine" implying medical & health education delivery has to do more with education technology to enable learners to understand applied human biology and methodology of needed medical and health care delivery to our society. Health in its promotive, preventive, curative and rehabilitative aspects is the yearning of human society and "Health for all by 2000 A.D." slogan of World Health Organisation implies education of Physicians as agents of social change to motivate the society to take meaningful action to provide to all a Biosphere consisting of adequate nutrition, clean drinking water, and needed sanitary arrangements with clean ecology which are the primary health parameters.

Medical and health education does not mean production of pill pushers; knife weilders and money makers exploiting modern biotechnology in per profit hospitals but training our youngmen and women in Applied Human Biology, Sociology, Systems Management, Communication and Managerial Technology so that they can be teachers and leaders of health teams attending to health needs of our people. It is sad that at the highest level of education administration, medical education is dismissed as uni-faculty vocational education which is not fit to have a university model of administration thereby causing enormous harm to medical and health care of our Nation.

We have 106 colleges of Modern Medical Sciences fully recognised by Indian Medical Council; about 20 are under examination for recognition and thirty more are planned by 2000 A.D. 250 colleges of Indian Systems of Medicine and Homoeo are expected to increase to 300. In addition postgraduate courses, super speciality courses are imparted by various institutes and institutions. Health care providers

*Vice-Chancellor, University of Health Sciences, Hyderabad.

are trained in various schools; centres and vocational training establishments in large numbers. All of them are expected to be organised and conducted as per guidelines of national regulatory bodies in Delhi, which does not have adequate inspection apparatus and no mandatory authority. States who fund medical and health institutions are involved in day to day administration and cannot restructure the medical and health education leaving it as general university function. As a consequence medical/ health education remained institutional and individual based function with no change from pre-independence structure which was designed for colonial purpose rather than one needed for an independent democratic nation. Thus fresh thinking has become necessary for medical & health education implementation to develop medical and health manpower suited to our needs with following objectives :

1. Integrating social sciences; managerial sciences; humanities and communication technology with applied human biology.
2. Upgradation, modernisation and developing linkages with modern medical sciences and its technology to Indian systems of medicine and homoeopathy.
3. Rectifying the inverted pyramidal model of para medical, para health workers and technologists and developing their linkages with physicians, nurses and health managers from early stages of their training.

How the universities of health/medical sciences should be developed has been discussed in detail with University Grants Commission and Prof. Rais Ahmed Committee which was appointed by Government of India for examining the feasibility/advisability of establishing such universities in 1988. In its draft report Prof. Rais Ahmed Committee observed :

"Investments in the conventional biomedical, and newly emerging high technology research areas, have considerably advanced our fundamental knowledge about the causes and mechanisms of disease processes. Paradoxically, this has also resulted in a further widening of the gap between what is known and what can be delivered in terms of health care."

"But for a few exceptions, medical colleges are not able to maintain high standards because they frequently lack appropriate facilities, faculty development programmes, a multi-disciplinary approach towards professional development relevant to the socio-economic conditions of our country, and vigorous research activity."

"The National Health Policy emphasized that the effective delivery of health care services depend very largely on the nature of education, training and appropriate orientation towards community health of all categories of medical and health personnel and their capacity to function as an integrated team, each of its members performing within a coordinated action programme."

"In the opinion of this Committee there is also clear need for a new kind of educational institution which can adequately discharge its responsibilities by virtue of its funding, scope, structure and academic standing. It may be called a University of Health Sciences".

"Since the University would cater for several categories of Health Manpower and various systems of medicine it should, by stages, set up Faculties for each. In addition, it should have strong departments in Biomedical, social and behavioural sciences, health economics, instrumentation technology, educational technology and related sciences. Continuing education of the teaching faculty as well as of other health professionals is vital. The university should also have strong programmes of disseminating health knowledge and awareness among the people through extension activity and use of mass media."

"While facilities in the colleges have to be improved, certain central facilities should be set up by the university. Such facilities could be in the form of specialized training centres, instrumentation centres, centres for development of curricula and curricular materials, educational technology centres, faculty improvement and continuing education centres, library and documentation services, etc. The centres could be in the main campus of the University or, wherever possible distributed to colleges."

University Grants Commission gave University of Health Sciences privilege of discussing with it the need for recognition and inclusion of medical/health universities under their perview and observed :

"The University Grants Commission at its meet-

ing held on 28th June, 1988 considered the minutes of the meeting of the Committee constituted to frame rules for declaring University of Health Sciences/Medical as institutions fit to receive central assistance in terms of Section 12-B of the UGC Act."

"In pursuance of the above provision in the Act of the UGC, rules have been framed for fitness of grants to general/technological/agricultural universities from central sources. The framing of such rules for fitness of grants to Medical/Health University have arisen as the Government of Andhra Pradesh, has set up a University of Health Sciences in the State on 1-11-1986. The name of the University of Health Sciences has been included in the list of Universities maintained by the UGC".

"It was further desired that the University of Medical/Health Sciences already established in Andhra Pradesh may be examined in the light of the various points listed in the minutes of the Review Committee. The Commission may also take appropriate steps to obtain funds from the Govt. of India for supporting medical education and research in the university system."

Andhra Pradesh University of Health Sciences will complete 3 years by November, 1989 and is a member of Andhra Pradesh State Vice-Chancellors' Conference, Association of Indian Universities, Association of Commonwealth Universities, and is closely associated with World Health Organisation and Council for International Organisations of Medical Sciences and is involved in discussing not only the scientific and technical basis of new developments in biology and medicine and other related areas, but also their social, economic, ethical, administrative and legal implications. Participants in these conferences are prominent representatives of different fields of medicine, natural and the social sciences, philosophy, theology and law.

Andhra Pradesh University of Health Sciences conducts its academic activity in 8 faculties viz.,

(1) Faculty of Modern Medicine
(2) Faculty of Dental Medicine and Surgery
(3) Faculty of Ayurveda
(4) Faculty of Unani
(5) Faculty of Homoeopathy
(6) Faculty of Naturopathy
(7) Faculty of Nursing
(8) Faculty of Nutrition

in 23 colleges for more than 10,000 students. All admissions are by statewide entrance examinations which are merit bound subject to constitutional and statutory reservations. There is no capitation fee and no differential fee structure. The distinct feature is that students are admitted into Colleges of Modern Medicine, Colleges of Indian Systems of Medicine & Homoeopathy through the same common entrance test for successful 10+2 sciences students. Common University examinations are held in all the faculties as per the norms laid down by national regulatory agencies.

Curriculum development and reorientation, medical & health education development & research, and student welfare are being looked after by the Universitiy on Statewide basis through college councils, Boards of Studies and Academic Council which meet regularly.

Attempts are being made to update the first phase (1-1/2 years) of medical education in all these colleges by introducing social sciences, and managerial sciences, specially in the colleges of Indian Systems of Medicine and Homoeopathy. For the first time in these colleges subjects of Biomedical Sciences (Anatomy, Physiology and Biochemistry) will be taught by teachers who are qualified and trained to teach at university level. This trend of undergraduate teaching in modern medical colleges and colleges of Indian Systems of Medicine & Homoeopathy will be progressively broadened so that the graduates of these colleges will attain the same level of knowledge that is required for health providers at all levels.

The Siddhartha Medical College, at Vijayawada is being developed as a Statewide University institution. Affiliated hospitals are being given shape as a model of Urban Medical Care System with peripheral Hospitals, Sattelite Hospitals and General Hospitals and Speciality Hospitals.

Realising the need for development of para medical and para health professionals and continuing medical education the University is establishing Colleges of Continuing Medical Education, Colleges of Family Practitioners, Medical & Health Education Development & Research Centre for training the needed medical and health manpower, College of

(*Continued on page* 6)

Gandhian Studies in the Universities

Perspectives and Prospects

L.C. Thanu*

Reverentially called "the Father of the Nation", Gandhiji, our political awakener, humanized the human race, spiritualised politics and established the invincibility of moral power. He was a crusader for peace and justice. He was able to demonstrate, for the first time in history, the efficacy of personal goodness, of the virtues of love and charity, in solving by dialogue, by mutual consent, social and political problems. His life of service was one of experiments with truth and non-violence.

Gokhale observed in 1909 : "It is one of the privileges of my life that I know Mr. Gandhi intimately and I can tell you that a purer, a nobler, a braver, a more exalted spirit has never moved on earth...He is one of those devoted to the highest principles of love to their fellow beings and truth and justice and touch the eyes of the weaker brethren as with magic and give them a new vision. We may well say that in him, Indian humanity at the present time has reached its highest water mark."

In free India he was deified and every year October 2, his birthday, is declared a holiday and is celebraetd in a formal and ritualistic manner, conveniently forgetting his message for the rest of the year on the plea that ordinary atmas could not follow the message of Mahatma. Worse still is, the Indian intelligentsia have no faith in Gandhian remedies to the ills of our country; they consider him "a relic of the past." Our administrators with a bias for foreign models of development decry Gandhian approach as "an unpractical fad or fantasy." Thus in India, "the toothless half-naked fakir in loin cloth" remains an unseen father figure, much talked about on occasions like elections and for discussions in academic circles. But to the great bewilderment of the Indian brown sahebs, celebrated thinkers of the West like Schumacher, Arnold Toynbee, Tinbergen, Gunnar Myrdal and a host of others commend Gandhian solution to India's problems.

E.F. Schumacher's *'Small is Beautiful'* awakened the interest of the intelligentsia in Gandhian Studies. Prof Toynbee charged our countrymen with the responsibility of spreading Gandhiji's ideas and observed "you have incurred a rather formidable obligation both to Gandhiji and history. . ." Prof. Tinbergen remarked, "Gandhian thought was not of a passive nature, it did constitute a revolution in thinking. So, it seems clear that his thought deserves being spread again." Dr. Gunnar Myrdal says : "Gandhi was no idealist or traditionalist and was more clear-headed and modern than most professional economists..." According to him, planning in India has not been very successful because Indians have not kept so close as they should to the fundamentals of the teaching of the Father of the Nation.

Martin Luther King's struggle against racial discrimination in the USA, the unarmed resistance by workers in Poland, Sokhorov's fast in the USSR, and recently the Chinese students' Satyagraha for freedom and democracy and against corruption and nepotism confirm that Gandhian values of truth and non-violence have struck a firm root abroad.

India attained political freedom in 1947 and as a hang over of the colonial past, we still have the slavish instinct of genuflection. Of late, however, a welcome change is discernible. The powers that be have begun to realise that just because the rest of the world extols him, Gandhiji has something in him; this has made them adopt "why-not-we-try him" attitude. Attempts were therefore made to arouse intellectuals and academicians who have all along been showing lip sympathy to Gandhian ideology to take up the task of making a correct and meaningful interpretation and critical analysis of his thought.

It is an irony of fate that while in other parts of the world, the youngsters are well aware of the contributions made by their national heroes, our youth are blissfully ignorant of their leaders who have won for them the flag. Students in Russia are familiar with the role of Lenin in the building of the Soviet Union; in the USA, the youngsters know what George Washington had done to the U.S. But in India, our students know more about world leaders and less about Indian leaders. They stand perplexed unable to identify the real Gandhiji, in the context of many others sporting the name of Gandhi.

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Albert Einstein says : "The most important human endeavour is the striving for morality in our action... Only morality in our actions can give beauty and dignity to life." To make this a living force and bring it to clear consciousness is perhaps the foremost task of education. Gandhiji's chief contribution to human civilization is the great attempt he made to effect a big change of heart among the people in favour of a concrete way of life based on ethical principles. It was, therefore, felt that through well-planned education, our students should be made to understand and follow the values which Gandhiji cherished most; they must be enabled to make an indepth and critical study of Gandhian philosophy in a bid to find its relevance to Indian conditions, as an antidote to the present malaise. Such a study will have a wholesome impact on our youngsters who are to lead the country to the 21st century. The universities in India have a role to play in this, particularly in view of the fact that the New Education Policy lays emphasis on value based education.

The universities in the West have taken real interest in Gandhian studies. In the U.S., the Harvard University and the Hopkins University have full-fledged departments of Gandhian Studies. Peace Education has become a distinct discipline in many universities abroad. There are Gandhian organisations in Britain, Holland, West Germany, the USA and Australia. An attempt is being made to establish in conjunction particularly with the Gandhi Foundation in Britain, an international Gandhian Movement to work for the adoption of non-violence on a global scale. Already a network of European organisations has been established.

In India, for long, the universities have, by and large, failed to take any initiative in this direction, quite often because of their indifference to these ideas, lack of suitable personnel and staff and fear that they may be overshadowed by men of the field. But in recent years universities have introduced courses in Gandhian Thought and values, set up Gandhi Bhavans and started programmes by way of peace research and other related activities, thanks to the financial assistance of the UGC.

As on 31st March, 1987, there were nine universities having facilities for postgraduate diploma or M.A. degree in Gandhian Studies. In addition, two universities have introduced Gandhian Studies as a subject at the Bachelor's level. Five positions of research associateships are also earmarked every year for studies in Gandhian Thought.

Following is a list of some of the universities in India offering courses in Gandhian Thought with facilities for research leading to Ph.D.—Annamalai (Diploma), Bhagalpur (M.A.), JNU (Certificate), Karnatak (Diploma, Certificate), Mysore (Diploma), Madurai Kamaraj (Certificate, Diploma, M.A.,M Sc.), Mahatma Gandhi (M.A.), Nagpur (Diploma), Panjab (Diploma, M.A. (Correspondence), M. Phil.), Sri Venkateswara (Diploma), Gandhigram Rural Institute (Diploma, M. Phil), Gujarat Vidyapith (Diploma B.A., M.A.), Bombay (B.A.), Manipur (B.A.), and Poona (B.A.).

Gandhian Thought is incorporated as an additional topic in an appropriate manner in subjects like history, economics, political science, philosophy, education and sociology at the UG and PG levels in some of our universities. In a few universities, Gandhian Thought finds a place as an additional paper (Dr. Hari Singh Gour, Venkateswara, Gandhigram). Universities like JNU and Allahabad organise special courses and programmes on Gandhian Thought and Peace Studies. The Gandhian Institute of Studies, Rajghat (Varanasi) takes up research on socio-economic problems and tries to develop them in the light of Gandhiji's thinking.

Among the universities, Madurai Kamaraj University enjoys the unique honour of being the pioneer in giving Gandhian studies the status of a distinct discipline. The credit for this goes to Dr. T P. Meenakshi Sundaranar, the first Vice-Chancellor of the University. Himself a staunch nationalist with an abiding faith in Gandhian philosophy, he thought that the greatest service the university could render to the community as part of the centenary celebrations of Gandhiji was to introduce well defined Certificate and Diploma courses in Gandhian Thought, with a view to taking Gandhiji to the students and presenting his thought as a radical philosophy, a dynamic force for the attainment of cherished social goals. Accordingly, the certificate course was introduced in 1968-69 and the diploma course in 1969-70.

The university has started a full-fledged M.Sc. degree course in peace making during the academic year 1979-80. This is an inter-disciplinary course involving more than six departments like the departments of Education, Sociology, Economics, Political Science, Biology and Geography. Practical field work forms an integral part of the course. The course is designated as M.Sc. to view problems with a scientific eye through practicals. Students should practice what is taught. The course is run by the university depart-

ment of Gandhian Studies and Ramalingar philosophy.

On the suggestion of the UGC, M.A. degree course in Gandhian Thought under the correspondence course, was inaugurated on 2nd October, 1982 so that the message of Gandhiji may reach out to a larger circle.

Facilities exist for research leading to M.Phil and Ph.D. in Gandhian Thought and Peace Studies, Gandhian Thought is included in the syllabus of disciplines like Economics, Political Science, Sociology, and History at the B.A. and M.A. levels.

Constraints and Prospects

In the land of ours marked by erosion of moral values at all levels, only the well motivated youth can redeem the country. They must be properly trained on the right track. Therefore, there can be no two opinions about the need to inculcate Gandhian values in them. However, we should guard against making a casual study of Gandhian thought. There is an urgent need to set up separate full-fledged departments/institutes manned by qualified people, practising Gandhian way of living. But such teachers are few and far between.

Bread and butter aim may appear to be a plebian outlook. But in practice, bread too counts, particularly in India with about 50% of the population below the poverty line and education often considered a passport to employment. With limited employment opportunities compared to postgraduates in other subjects, it is too much to expect students to opt for the course for the sake of knowledge; mainly the rejects join, all the while looking around for better pastures. In some centres, they are treated like academic outcastes. Better students can be attracted if the curriculum is made more relevant and reoriented towards self-employment. Graduates and Postgraduates in Gandhian thought must be given preference in employment in institutions connected with Panchayati Raj and in other selected sectors. They should be preferred for appointment as teachers as they could mould children into responsible and responsive citizens.

The Departments of Gandhian Thought in various universities should carry the message of Gandhiji to the schools and colleges all over the country.

The UGC is not that cooperative. They can increase the number of fellowships. While they pay cent per cent grant to colleges offering the B.Sc. degree course in Physical Education, Health Education and Sports, they are indifferent to institutions coming forward to start courses in Gandhian thought. This attitude should change and they should extend the same benefit to colleges offering UG and PG courses in Gandhian thought and provide liberal financial assistance to students selected on the basis of an aptitude test. All these would attract the right type of students.

With such students trained by knowledgeable teachers of moral rectitude, one could visualise a better India with young men and women of heart and energy who could revolutionise the whole country. □

Universities of Health Sciences

(*Continued from page* 3)

Biotechnology and College for Specialist Nurses. Managerial Sciences, Communication technology and Computer Sciences will be taught at various levels of these medical & health educational institutions.

Cooperation of the general universities where these sciences are very well developed is being sought. Osmania University has kindly agreed to conduct a Workshop on "Systems of Health Care Management for Hospital Managers". A Coordinator is being appointed. Andhra University has agreed to develop Postgraduate Institute of Biomedical Sciences as an inter university activity and Advisory Committee is appointed with an Honorary Director. Sri Venkateswara University has agreed to cooperate in Demography and Population studies along with the University of Health Sciences.

University is also seeking the cooperation of national and international bodies. World Health Organisation supported the conduct of a workshop on medical education and also promised support to the development of Medical & Health Education Development & Research Centre. Ministry of Health, Govt. of India, cooperated in conducting a workshop in family welfare. Overseas Development Administration of United Kingdom is examining the establishment of a School to train para health workers.

The University has the objective not only of developing needed manpower for Andhra Pradesh in the next 10 years in medicine and related areas but also to inculcate the needed social, economic, ethical and administrative responsibilities to trainees. This process is to have multidisciplinary support from sister universities, Government of Andhra Pradesh and the concerned agencies of Government of India for which the University looks forward. □

Education for Women's Equality

K.K. Bajaj*

Recently there has been a spurt in studies and seminars aimed at a fresh appraisal of the status and role of women to search for strategies for their equality particularly through education and for the promotion of their interests as a disadvantaged and marginalised group. The discussion has gained authenticity with the government and media joining the issue. In its Annual Report for 1988-89, Department of Women and Child Development, Ministry of Human Resource Development, while acknowledging that 49 per cent of India's population consists of women, has stated that one of the means of conscientising women is to raise their economic status and by thus empowering them bring into the mainstream of national development. It has, time and again, been emphasised in the context of human resource development that it is necessary to ensure that the women get their due share out of the development grants and thus assume their rightful role in the society. Point No. 12 of the 20 Point Programme of 1986 lays down that the government will endeavour to raise the status of women, to enhance their awareness about their health, welfare, education, civil rights, economic, moral and social status, etc., and create mass consciousness and training and employment opportunities to enable them to participate equally in nation-building and to create public opinion against dowry to ensure effective implementation of anti-dowry legislation. Earlier, in 1971, the government had appointed a committee on 'status of women in India' to undertake a comprehensive examination of the questions relating to the rights and status of women in the context of changing social and economic conditions in the country and new problems relating to the advancement of women. In one of its surveys it reported that social attitudes towards women's education were quite negative. Almost 16.8 per cent of the respondents felt that the girls needed no education; 64.5 per cent i.e. 4-times the number held the view that the higher education was unnecessary for women. This apparently means that social attitude to women's education is one major hurdle to the development of women. Besides, the report of this committee titled 'Towards Equality' was an exercise to identify ways and means to enable women to play their full and proper role in the building up of the nation.

Dean of Colleges-cum-Director, College Development Council, H.P. University, Shimla-171005.

The playing of full and proper role is also linked to equality before law which is guaranteed under Article 14 of our Constitution. The concept of equality is a civil right. It does not have anything to do with the level of awareness and development of the otherwise marginalised state of women. The term 'equality' has to be correlated to the social, economic, political, moral, religious contexts besides that of opportunity. The connotation of the word 'equality' has to be tested in this context. Needless to add here that equality for women has neither been a historic nor a social prerogative in India. What may be theoretically or even legally settled may not be acceptable in our tradition bound society. While equality may be an urban character it still continues to be an elusive term in its rural application and implication. During 1978-79, through government initiative, specific recommendations in the fields of employment, health and political participation were made and social awareness generated to discuss these issues. It was sometime in 1981 that the first National Conference on Women's Studies was held which provided a common forum for increasing interaction between academics and people engaged in action programmes for women's development. With the involvement of CSIR, DST, UGC, Universities, different apex academic bodies and NGOs, greater attention came to be paid to the status and role of women. It is only during the last decade that the issue has attracted greater attention and generated interest among all to study the problems of women and their activities relating to their health, welfare, education, civil rights, economic, moral and social status etc., all with a view to realising the concept of their equality in these fields. Women's organisations have multiplied to enhance the degree of interest and effort in this direction to ensure their participatory development. Side by side, professionally competent studies have come to be undertaken to understand and evaluate the role of education as an important input directed towards ensuring women's equality. Subject-specific studies to survey, monitor, analyse and report on the role of education have been launched in different universities.

Recent interest in the status of women is neither new nor wholly innovative. In the present day political scenario, reservations for jobs and in political institutions, stringent measures against atrocities on women, gender equal laws, accessible education for

women and a number of other facilities, constitute the package in favour of women to ensure their equality. This package besides being of opportune political nature, continues to be an all time social necessity. It is generally agreed that women suffer from malnutrition, illiteracy, exploitation and social atrocities. This is so because we constitute largely an inequitous and patriarchical set-up. Despite our social development and technological advancement we have not been able to dispel the attitudinal disparities which we have inherited and which still condition our thought process. These still haunt our rural masses and poor urban women. While the Government's effort to break the barriers of ignorance are so loud and clear yet they are nothing more than a pittance in the face of chronic syndrome of poverty and deprivation engineered mainly by male dominance over the ages. In the course of social evolution in India, in every age, the attitude towards women has been distinct. If at one time it has placed women on a pedestal of worship, at another time and in another era following this, she has been forced to immolate herself on the pyre of her husband. The exploitation of so called weaker sex became the target of yet another age and society. Social activists such as Raja Ram Mohun Roy, Dayanand Saraswati and other social reformers carried their crusade against all social odds to restore honour and dignity to women. The growth of such social institutions as purdah, child marriage and denial of equal rights of inheritance, relegated women in social esteem. Against all these retrograde steps, even Mahatma Gandhi reacted sharply and called them a social hindrance. Now through legislative measures, child marriage has been declared a legal offence; inheritance has come to be legalised but women in villages still continue to be the victims of exploitation, superstition, malnutrition, disease and male dominance. Government efforts and social initiatives made through numerous rural development programmes and agencies have so far not made any significant headway in this direction.

While the government has been following a consistent policy to tackle the problem through legislative action and by creating social conditions, there can be no manner of doubt that to ensure improvement in the lot of women we have to ensure their equality in our society which could be possible only through qualitative improvement of the input of education and which alone can bring about the much needed change in outlook of illiterate woman. With the modern tools and technology of education backed by political will, education can be the only viable input to ensure the desired improvement in the status of women. With our normal planning procedure and the role of nodal agencies and commitment for implementation, education is the sole factor which can mobilise women and create an awareness to turn them into an active human resource directed towards social progress. Referring to legislative measures as a part of government initiative, we have a number of enactments to help protect women in their rights such as Hindu Marriage Act, Child Marriage Restraint Act, Dowry Prohibition Act (1984), Equal Remuneration Act (1976), Factories Act (1976), Maternity Benefits Act (1976), The Suppression of Immoral Traffic Act (1978) (1986), Family Courts Act (1984) etc. These can reach women only if they have sufficient awareness cultivated in them through the input of education to assimilate these and benefit from these Acts to their advantage.

Progress in female literacy during the past over forty years has been steady but not phenomenal enough to compete with the growing pace of population. The result is that women are still by and large illiterate. For instance, according to an estimate, in Rajasthan 88 out of 100 women are still illiterate. However, it is encouraging to see that after independence education of girls has been progressing more rapidly than that of boys and the parents have shown remarkable interest in their education. Literacy conditions thinking. It is a tool for liberation. An environment for obtaining this objective has to be created by educational institutions and planners. The national policy on education (1986) has projected an extremely dynamic role for education. Visualising it as a lever to bring about change in the status of women it states "the National Education System will play a positive interventionist role in the empowerment of women". It contemplates to bring about the desired change towards development of new values through restructuring of courses and through the promotion of women's studies as a part of new courses. The thrust of this programme has to be taken seriously by all our educationists and management experts in universities. There has to be a sustained effort to manage and mould the entire approach towards bringing up new courses directed towards infusing fresh interest and confidence in the role and responsibility of women. Our polity, social system and approach should be such as to demysticise the negative impression that we carry about women. Even as a part of the democratic process, the dignity can be restored to the women only if gender equal models constitute our courses. The teaching strategies should be so evolved as to emphasise the role of women as co-sharers in the task of national development. In a

society where monetization of work alone counts and where the economics of human identity alone is the sole guiding factor, the distributive and contributive role of women must not also be ignored. The woman as mother, woman as the kingpin of family hearth and history, should continue to enjoy a place of importance and reverence. The value of house work should be given its due importance in the spirit of co-sharing of the total load of family inculcating the spirit of social security breaking the shackles of traditional male dominance.

Media also plays a significant role in projecting the image, status and role of women in society. Its attitude towards women is patently commercial and photogenic besides being unjust. Women continue to be projected simply as models and tools to pedal products of rich monopoly houses. This shows a distinct lack of imagination on the part of our media magnates. A woman must take nutritious diet because she is simply a tool or an agent for procreation and has to be fed and sustained as such. Similar is the doze of contributory malice and bias in our daily diet of advertisements which smacks of superficial richness and cheap glitter of widening social disparities. The catalogue of luxuries being reinforced in our psyche, inflates our ego and ambitions resulting in mal-adjustments among the ordinary and poor persons of middle strata of society. The window dressing of our morals with our bearer-bond morality, is a shocking commentary on our perceptions. Right education is perhaps the only panacea for this. While directing our efforts towards education for women's equality we must plan for proper information modules and good academic packages to create an awareness among women about their past, present and future and reassure them of their glory, status, role and responsibility in our society. The approach should not be merely elitist but pragmatic besides being workable and socially relevant. It should have the complete support of the government, media and the educational planners with specific tools and strategies to reach out to every woman in the country to bring about the much needed revolution in thought and attitude. The guidelines should be mandatory to end exploitation. The education should be compulsory with definite incentives to remove illiteracy through well conceived programmes and action points. The inputs have to be definite and defined to eliminate ignorance and arbitrariness in approach. The thinking in this direction should be practical and progressive.

In the universities, women's studies should be adopted as a policy thrust as already promoted by UGC as an adjunct to Promotion of Human Rights, Population Education, Adult Education, Science for People, etc. and it should be inducted as an extension to the third dimension of university activities. This will be a powerful motivator to cultivate balanced understanding of social reality. Its package can contain : (a) women's contribution to the social processes, (b) women's perception of their lives, social reality, their struggles and aspirations, (c) roots and structures of inequalities that lead to marginalisation, invisibility and exclusion of woman from the scope, approaches and conceptual framework of most intellectual inquiry. Women's studies, as per UGC guidelines, should not be defined merely as studies about women or information about women but be viewed as a critical instrument for social and economic development which will help to conscientise both men and women about their multidimensional role in society, to promote better understanding for social, technological and environmental change, to contribute to the pursuit of human rights, to empower women in their struggle against inequality and for their effective participation in all areas of society and development, etc. Thus, the nature of incorporation of women's studies within the university system is both academic and social. The whole proposition aims at fulfilling the academic requirement and social responsibility to promote increased collaboration between different disciplines in teaching, curriculum design, research and extension activities since women's studies are inter-disciplinary by nature. This will make dissemination of mutually useful information relevant for the purpose as well. As such it is necessary to plan and integrate multidisciplinary approach through a package of academic linkages with which alone we can bring about the much-needed role of education for women's equality into focus. It is in this way alone that this will become appropriate besides being relevant to bring about the desired social change for women's equality through education. □

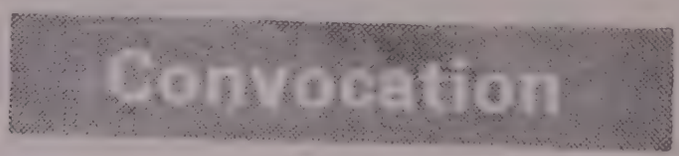
TO OUR READERS

Knowledgeable and perceptive as they are, our contributors must not necessarily be allowed to have the last word. It is for you, the readers, to join issues with them. Our columns are as much open to you as to our contributors. Your communications should, however, be brief and to the point.

The Computer Revolution

Dr. V.S. Arunachalam, Scientific Advisor to Defence Minister and Secretary, Department of Defence Research Development, Government of India, delivered the Convocation Address at the Third Convocation of the Thapar Institute of Engineering and Technology (Deemed University). He observed, "If the first industrial revolution helped us to replace muscle power by a mechanical one, the computer revolution promises to do much better for the second one . . . . . In the olden days costly experiments would have been required in wind tunnels before a design could be frozen. Even today we need some experiments, but just enough to confirm what we saw in the computer. Computers have thus removed the magic of intuition, and to some extent the element of luck from designers and instead have given them a tool so that every design is a good design and every good engineer is a lucky designer". Excerpts

Becoming an engineer or a scientist in our country today is not a novelty anymore. Thousands do so every year in our country and it is so for decades; it was not like that before our independence. Then technical education was a rarity in colonial India, for our rulers then did not look at India as an industrial nation. They merely wanted men to mind the machines. The machines of course came from abroad. All these changed overnight with our independence. With our becoming masters of our destiny, we planned for and built dams and canals, factories and structures that promised the alleviation of poverty, generation of wealth and human welfare. We were enthusiastic in post independent India often unmindful of riches to transform our dreams into reality. But side by side we were also setting up schools, colleges and universities in all areas of knowledge. We also built many new research organisations in the areas of new science and technology. These steps are the ones that pay rich dividends today transforming the country from a rural peasant India to a potentially rich industrial nation. This single step is the one that distinguishes our country from all other countries which became independent after us. While others thought that political freedom was the end, our leaders thought differently. For our leaders political freedom is but a component; it has to be sustained and protected by other strengths. Thus they strove for an all round development compatible with our environment and long history.



No man had a greater vision of India in this light than Pandit Jawaharlal Nehru who dreamed of a modern India with science and technology and industry striving to make her a great nation. This year is the centenary year of Pandit Nehru's birth. While we celebrate the year, we must devote a moment to contemplate the historic steps that the great son of India took to put us on this road to development. He spoke of politicians and scientists working in close cooperation. The solution of all our social and economic problems, he said, depended on this cooperation. Thus he strove to establish a scientific and industrial base with such a success that even twenty five years after his death, we have a vigorous and active scientific, technological and industrial base serving for the growth of the country. No nation could have asked for more and got from a patriotic son.

There are so many engineers and technologists coming out of our colleges, sometimes we all worry about their getting jobs. There are occasional headlines in our newspapers about this educated unemployment. But is it really true that we have less openings than candidates ? Your own limited experience will tell a different tale. There are jobs for the enterprising, perhaps not in the locality and not even in the area of specialisation; but certainly not with the pay we think we all deserve ! But there are jobs. We must take what is available and start learning. I know of engineers and scientists who told me of their earlier experiences in modest assignments far different from the later ones which made them famous. I would therefore appeal to you to join the profession as early as possible. In addition to providing a morale booster for you and your parents, it will take you directly to the real world.

It is not correct to say that one has to get the job one desires or even desires before he or she can contribute. No area is immune to a new idea or innovation. It can be as merely cleaning the working

environment or introducing some order in a crowded workshop. All these also make for a better industry. But there are also areas in which we have to work specially hard to make the industry competitive. Take for instance, the quality of our industrial products. You will have to admit that more often than not, the quality of our engineering goods is shoddy and unreliable. It may be a bad workmanship, or wrong material or even a poor design. The quality control as we learnt often, does not even exist. As young engineers you may have opportunities to correct these shortcomings. We are, for instance, extravagant in the use of raw materials and energy in our factories. Our high costs can often be traced to such wastes. These jobs may at first-sight appear as unglamorous wanting as you are to design something big or even run a new and big factory. But the challenges I just mentioned are as important as designing new products.

Some of you will have opportunities to work in many new and challenging areas. Space programmes, or electronics or even defence technologies may look glamorous from outside. But once you get into these activities, they are real hard work demanding from a level of intellectual and physical discipline not often associated with graduate engineers. I still remember the hundreds of days my colleagues in the Defence Research and Development Organisation worked for eighteen to twenty hours a day to make AGNI realisable. Often reward for this type of work is the work itself. By the time you succeed, it is time to pass on that work to production agencies and concentrate on another new and difficult problem. An engineer's work is never done.

I also learnt another lesson from the AGNI experience. It is to do with the thoroughness in design and fabrication. A missile has tens of thousands of components. All of them must work reliably. Often, to cover up this almost unreasonable demand, we design many things in duplicate. But we cannot do that for all systems. The only way to succeed is, therefore, to design and fabricate the systems meticulously so that the chances of failure are minimised. We have to learn this discipline not only for some esoteric programmes like AGNI but in every area of technology. Only then can we match countries like Japan.

There is another area I cannot resist touching : computers. This is not another subject for examinations, but a tool of the second industrial revolution. If the first industrial revolution helped us to replace muscle power by a mechanical one, the computer revolution promises to do much better for the second one. We believe that computers in future are capable of replacing human brain power in areas where we can teach the machines to think like us. I am not saying for a moment that computers can replace human thinking: I don't think it will ever be possible. But it can replace human thought processes in performing long, tedious and difficult calculations fast. This itself is an important thing as today we are able to perform the very calculations on our designs which only a few years ago we were only approximating. This itself makes the design that much better. But more than this capability, the computer today can help us to simulate events and help in controlling them. Take simulation for instance; we are designing an aircraft wing which has to stand, let us say, a gust of more than a certain force. We can today design the wing in a computer, calculate the stresses in all locations and see how the wing performs when it faces the gust. We can see the effects in the computer well before the design is complete so that we can optimise the design for the required specifications. In the olden days costly experiments would have been required in wind tunnels before a design could be frozen. Even today we need some experiments, but just enough to confirm what we saw in the computer. Computers have thus removed the magic of intuition, and to some extent the element of luck from designers and instead have given them a tool so that every design is a good design and every good engineer is a lucky designer.

The other area of immediate interest to engineers is the facility the computer provides in design and control. Take for instance, the computer aided design, the so-called CAD. The drawing comes out of the design naturally and it is possible to calculate the parameters and check their compatibility with the rest of the design even before we freeze the design. If necessary we can even modify it. For instance, it is so easy to see for ourselves the design projected on various planes almost instantly, without having to work for days preparing the all-too-difficult drawings. Complicated designs call for complicated fabrication. Machines cannot do these easily or with any accuracy. We therefore use numerically controlled, the so-called, NC machines for fabrication. What is unique about designing through computers is our ability to generate the required punched tapes needed for the NC machines. This is the so-called CAD-CAM system, an abbreviation for computer aided design and computer aided manufacture. There is also

another area that is becoming very important and relevant. I refer here to the computer control of systems. This has something to do with the scale of engineering operations today. All engineering processes today are grown very big; just a few decades back we were content with producing a million tonnes of steel in a plant. Today in some plants, we are making ten million tonnes a year. The economy of scale has made all these operations grow very big. Unfortunately they also bring in the problem of accidents. In the unlikely event of an accident, the dangers to people and property can be very large indeed. We only have to look at what happened at Bhopal or Chernobyl to realise the magnitude of human suffering and material damage these accidents can cause. Unfortunately, today accidents of this kind are on the increase. The one ready and viable option for us is, to let the computers control large production processes. Computers by their very design are capable of handling multi-events almost instantaneously. While a human being may be hard pressed to decide in times of crisis unable to choose an appropriate decision, a computer may be able to advise, and if programmed properly, even act by reducing or even stopping an operation that threatens to go out of control. This is not because the computer is intrinsically intelligent, but because we are intelligent and able enough to programme the machine for dealing with such emergencies. When a process is analysed logically, the human mind is capable of deciding on appropriate options for the process to remain under control. Thus a programme written after such a thorough analysis can indeed come to our rescue in times of crisis. I am really hopeful that in the coming years computer controlled operations will gradually replace operator controlled systems, especially for large operations.

Talking about computers, I want to urge its importance and relevance to all of you irrespective of the discipline you have chosen. The subject is too important to be left only to the electronic engineers and computer scientists. All areas of engineering, science and technology can benefit, and hence my appeal to you to study and master this area of challenge.

An engineer is also a citizen of this country and he must discharge his responsibilities as an honest citizen. He or she should do actually more, for science teaches us to analyse issues logically without any preconceived prejudices. An openness of mind is what we all have been taught to develop. We should bring this strength to solve other problems of the country as well. We should have no time for issues generated because of race, cast, creed or religious prejudices. These issues have no meaning for a rational thinker. More than ever, there is a need for all of us to practise what we have learnt in our schools, colleges and universities. Only then, we shall be able to destroy all the social and other ills afflicting our nation. □

Academics on Ram Janam Bhoomi-Babri Masjid Controversy

The personal statement made by Prof. Yash Pal, Chairman, University Grants Commission regarding Ram Janam Bhoomi-Babri Masjid controversy at the Conference of Vice-Chancellors at Srinagar (October 6, 1989) was adopted unanimously by the Vice-Chancellors drawn from all parts of the country as their resolve for concerted action. The statement reads as follows :

"We are not a political group but we value—intellectually, culturally and emotionally—the richness that makes India what it is. The identity of India, which is its greatness too, lies in the variety of colours in its religious and cultural tapestry. The dangerous emotions let loose, disregarding this unique feature of our country, must be channelled in a constructive way, lest we should perish.

"We appeal therefore to the people of India, particularly all those involved in the crisis that we should make Ayodhya into a unique cultural and religious centre of the whole country with a mosque, a temple, a church and a gurudwara and also scholarly institutions to explore, understand and celebrate our great collective heritage.

"Let us resolve to convert our current crisis into a movement of universal belonging, a perennial source of togetherness in years to come. Let us stop short of madness and transform our passions into a force for reinforcing the India that is, and that which is seeking an expression".

Women in the Press—The Changing Roles

The Department of Communication and Journalism of Sri Padmavathi Mahila Visvavidyalayam, Tirupati organised a National Seminar on "Women in the Press—The Changing Roles". The three-day working sessions covered issues like Women in the media hierarchy, women's magazines—whom do they serve, and journalism.

Inaugurating the Seminar, Mr. Ramesh Kumar, Joint Executive Officer, Tirumala-Tirupati Devasthanams, said today's dilemma is the status quo versus the change but which doesn't change is relegated to the background. It is here where journalists play a role is shaping social change.

Mrs. Portia, who presided over the function, said that though there are many privileges available to women, they are not aware of the privileges and their rights. They should be made aware of them. She felt social equality depended mainly in the change of attitudes.

Mrs. Koteswaramma, Director and Principal of Montessory College, Vijayawada, a special invitee, said the purpose of Women Journalism is not just business but to educate them to protect themselves. They should be encouraged to take-up the subject, they are interested in, she added.

Participants at the seminar were from Newspapers, magazines, educational institutions and Women's development organisations. Eminent journalist, Mr. Kuldip Nayar was the chief guest at the valedictory function.

The following recommendations were made at the Seminar :

(1) All discrimination against women in recruitment and assignment of work in media organisations should be eschewed.

(2) The Seminar noted with concern the prejudicial attitude against women in regional and vernacular press and recommended that there should be no discrimination against women in the recruitment of reporters.

(3) The Seminar urged the introduction of facilities like maternity leave and other child care facilities in media institutions to encourage women to continue in the profession even after marriage.

(4) The Seminar recommended that women working journalists on night shifts should be provided transportation.

(5) It was noted that due importance was not given to news about women's issues and even when they are reported they lack in women's perspective. It recommended corrective initiative in this behalf as also desired that follow up investigation should also be taken up vigorously.

(6) The Seminar recommended women's representation on the Editorial boards of newspapers and journals.

(7) It was desired that women's magazines in particular should have a woman Editor as also the majority of the staff should be women.

(8) The Seminar recommended improved relations between educational institutions teaching journalism and media institutions.

(9) Adequate personnel should be recruited for all media institutions both government and provide, imparting journalism education.

(10) Journalism students should be sensitised to women's issues. It therefore recommended that the syllabus be made more inter-disciplinary in nature.

(11) It was recommended that media institutions should take serious note of the recommendations regarding the role of media in women's development as contained in the National Perspective Plan for Women.

Reversing the Brain Drain

The Government of India is reported to have announced a package of special measures aimed at reversing the "brain drain" of scientists and technologists trained in India but now settled abroad. The Ministry of Human Resource Development, it is learnt, has drawn up plans to create supernumerary posts in Indian universities which, it is hoped, will be filled by outstanding scientists currently working overseas.

The Ministry is also planning to create a "science pool" allocating immediate temporary posts to returning scientists, and also willing to help in importing specialist research equipment as an added incentive.

As a further boost, the Council of Scientific and Industrial Research has launched a scheme known as TOKEN—the Transfer of Know-how through Expatriate Nationals. It is willing to pay air fares and subsistence to returning Indians during research visits to India while contacts are built up, paving the way to an eventual full-time post.

More powers are also to be devolved to main scientific research institutions, including the IITs, to allow scope for enhancing local working conditions as a further recruitment incentive.

The Ministry of Industry has also stepped in to set up a special unit to allow so-called non-resident Indians holding foreign passports, to invest in Indian technology without having to go through the usual red-tape and bureaucracy.

A number of new high technology university departments are also being created in "frontier" fields such as biotechnology, oceanography, environmental studies, non-conventional energy sources and telematics, again hopeful of recruiting returning academics from overseas.

BHU & Oklahoma Sign Exchange Agreement

The University of Oklahoma, U.S.A. and Banaras Hindu University have entered into an agreement of educational and scientific cooperation in order to promote further cooperation between the United States of America and India.

According to the agreement, both Universities will encourage direct contact and cooperation between their faculty members, departments, and research institutions. Both institutions will endeavour to cooperate in education and research in areas of mutual interest. This will include joint research activities, exchange of information, research publications, library materials and exchange of faculty members for research, lectures and discussions and exchange of graduate and undergraduate students for study and research.

Themes of joint activities and the conditions of utilising results achieved and arrangements for specific visits, exchanges and other forms of cooperation will be developed mutually for each specific case.

SNDT Varsity Celebrates International Literacy Day

8th September is observed every year as International Literacy Day in all member states with the objectives of drawing public attention to the problem of illiteracy at the national level and in the world, and to stimulate action to combat the problem of illiteracy.

The magnitude of illiteracy in India is still significantly high and constitutes a serious handicap in the socio-economic development of the country. 1995 being the target year for the total eradication of illiteracy in India, the subject has acquired utmost urgency in our country where more than half the population is still illiterate.

The National Literacy Mission (NLM) envisages involvement on a large scale of teachers, students, youth, voluntary agencies, employers, trade unions, development departments, universities, etc. in the literacy effort.

To mark the occasion, special programmes were organised at S.N.D.T. Women's University to celebrate the International Literacy Day by organising of debates, street plays, exhibitions. The mass media—traditional folk artists were also involved intensively to generate awareness and strong demand for literacy. The Department of Continuing and Adult Education and Extension Work, S.N.D.T. Women's University organised an exhibition of posters, slides, audio-visual aides, reading materials for neo-literates etc. Over 50 students of different affiliated and conducted colleges of this University attended the programme. A street play was also presented by the college students, which highlighted the importance of literacy and involvement of students in the programme of eradication of illiteracy.

A Padyatra—Literacy Rally—was also organised as a part of the celebration of World Literacy Day in Dindishi, slum community, adopted by the Department for Area Development Approach. The main objective of this rally was to create awareness among the community regarding importance of literacy and to motivate other illiterates to join adult education classes.

Affiliated and conducted colleges of the S.N.D.T. University also organised a number of functions and celebrated the International Literacy Day at the college level also.

Refresher Course in Statistics

The Indian Statistical Institute proposes to organise a UGC-sponsored Refresher Course in Statistics at the ISI Campus, Calcutta, during January, 1990. Teachers from Indian universities and colleges which are within the purview of the UGC are eligible for admission to this course. The training will mainly consist of exposition of basic concepts and development of teacher's manual with special emphasis on the mode of teaching. The following areas have been considered tentatively for this session.

Postgraduate level : (a) Real Analysis, (b) Stochastic Processes,

(c) Sample Surveys, (d) Non-parametric Inference.

Undergraduate level: (a) Probability Theory, (b) Matrix Algebra, (c) Special topics in Inference, (d) Non-parametric Inference.

Further details may be obtained from the Course-Coordinator, UGC Sponsored Refresher Course in Statistics, Division of Theoretical Statistics and Mathematics, Indian Statistical Institute, 203, Barrackpore Trunk Road, Calcutta 700 035.

BHU Deptts. Upgraded

The Departments of Electronics Engineering (Institute of Technology) and Sociology (Faculty of Social Sciences) of the Banaras Hindu University have been upgraded by the University Grants Commission.

The Deptt. of Electronics Engineering has been elevated as Centre of Advance Study and a total grant of Rs. 41.50 lakh has been provided to further strengthen the infrastructural facilities in the thrust area of Microwave and Microelectronics for teaching and research. This grant includes Rs. 25.00 lakhs as non-recurring expenditure. This sanction is in addition to money provided under Special Assistance Programme.

The Deptt. of Sociology has been elevated and now covered under Special Assistance Programme of UGC for thrust area of teaching and research in, "regionalization and patterns of rural transformations" with reference to Uttar Pradesh from a cooperative perspective. One post each of Professor and Lecturer and two JRFs in addition to the grant of Rs. 2.00 lakh per annum for five years have been sanctioned.

With this four departments of the Banaras Hindu University have been recognised as Centres of Advance Study and eleven departments covered under Special Assistance Programme.

Jnanpith Award for Prof. Narayana Reddy

Prof. C. Narayana Reddy, Vice-Chancellor, Telugu University has won the Bharatiya Jnanpith Award for the year 1988 for his outstanding contribution to Indian literature. An outstanding poet and a multi-faceted literary celebrity combining in himself a critic, a lyricist, an essayist, a playwright, an educationist and an orator, Prof. Narayana Reddy's poetry is known for its sublime thought and ecstatic lyrical element. He is the innovator of the form of the long poem (Mahakavya) in native Geya metre in Telugu. He has also borrowed Matra Chhand from the folk poetry and bestowed literary dignity on it.

Prof. Narayana Reddy has authored over 40 books of which 16 were written during 1968 to 1983, the period relevant to the award. *Mantalu Manavudu* (The flames and the man) which won the Sahitya Akademi Award and *Vishwambhara*—an epic poem in free verse are considered to be the masterpieces. The latter has won several awards including the Soviet Land Nehru Award.

Jnanpith Award comprises a citation, a shawl and Rs. 1.5 lakhs in cash.

News from Agril. Varsities

Dr. Randhawa Memorial Lectures

Professor M.M. Sharma, President of the Indian National Science Academy and Professor of Chemical Engineering at Bombay University said that the use of fertilizer and agro-chemicals had played and would play a crucial role in augmenting the production of foodgrains, oilseeds, etc. in India. He was speaking on the use of fertilizers, insecticides and pesticides as a part of the second Dr M.S. Randhawa Memorial Lecture Series at the Punjab Agricultural University recently. He said that new investments in nitrogenous fertilizers (NF) industry till the turn of the century would exceed Rs. 100 billion and India would become one of the leading countries in the world with respect to the annual production of urea. Professor Sharma said that the country needed all types of NF and the predominent use of urea ought to be reassessed as this type of input was really good for an aerobic conditions and clay type soils. He called for the judicious use of ammonium nitrate, urea and urea nitrophosphate and in some areas of the India liquid fertilizers.

Professor Sharma felt that expensive use of nitrophosphate (NP) merited serious attention in place of diammonium/monoammonium phosphate based on phosphoric acid in turn made from phosphate rock and sulphuric acid since India had hardly any indigenous sulphur required for sulphuric acid. He urged that the use of single superphosphate must be reassessed. Professor Sharma advised that the application of potash should pre-

ferably be done in association with other forms of fertilizers such as nitrate, phosphate, etc. He said that modern technology permitted smaller size plants of ammonia to be installed at several locations and these could compete with the mega plants as the really useful criterion was the cost of the fertilizers at the farm gate.

Referring to the use of insecticides and pesticides, Professor Sharma said that India's current use was very heavily slanted to insecticides and here too cotton figures predominantly. By contrast, world over, the major part of pesticides application was as herbicides/weedicides. He emphasised the development of the herbicides/weedicide industry on a large scale as expensive fertilizers get wastefully deployed and valuable resources get frittered away. He said that the recent developments on encapsulation of pesticides was of special relevance, both for safe handling as well as making pesticides more efficacious. Professor Sharma stressed the need for better understanding of our soils and urged that water obsorbing polymers should be seriously considered. He remarked that the use of micronutrients had not received adequate attention and opined that the chemical industry alongwith experts in agriculture, life sciences, biotechnology, etc., could play an important role in making the farms a source of national pride and to ensure secure life to the new generation of our fellow countrymen.

Dr. Sukhdev Singh, Vice-Chancellor of the PAU, who presided, said that chemical fertilizers had played a vital role in enhancing the food production and had there been no fertilizers, bulk of the population of our country would have starved. He said that with the application of science and technology, living had become better especially in the rural areas. He, however, cautioned that insecticides should be used on the crops with utmost care as these were very injurious to human and animal health.

News from UGC

INSAT-1B Programme of UGC

Between 24th November to 30th November, 1989 the following schedule of telecast on higher education through INSAT 1-B under the auspices of the University Grants Commission will be observed. The programme is presented in two sets of one hour duration each every day from 12.45 p.m. to 1.45 p.m. and 4.00 p.m. to 5.00 p.m. The programme is available on the TV Network throughout the country.

1st Transmission

12.45 p.m. to 1.45 p.m.

24.11.89

"Space Craft for Space Communication"
"Defence Mechanism—II : Conflict"
"Gawah"

25.11.89

"Law Day"
"Generation"
"Black Art"

26.11.89

No Telecast

27.11.89

"The Race : A Programme on the Cyclotron"
"Money Lenders and Indigenous Bankers"
"Raw Material : Cotton"

28.11.89

"The Basics : The use of Learning Centres"
"The Reactive Polymers"
"Endoscopy : The Inner View"

29.11.89

"Brick Panel Roofing"
"The Scorpion"
"Modern Genetics and Human Welfare—V"

30.11.89

"Logic Circuits"
"University Round Up"
"The Pursuit"

2nd Transmission

4.00 p.m. to 5.00 p.m.

24.11.89

"Introduction to Space Communications"
"Hands at Work"
"Clean Air—Healthy Living"

25.11 89

"Burns"
"Berlin—Cultural City of Europe"

26.11.89

No Telecast

27.11.89

"Lasers—III"
"Consequences of Inflation and its Control"
"Cocoa Cultivation"

28.11.89

"The Basics : Basic Needs Assessment"
"University Round Up"

29.11.89

"A Return to Nature"
"Forts of Deccan—II : Bidar"
"Modern Genetics and Human Welfare—I : What are Genes ?"

30.11.89

"Logic Circuits"
"University Round Up"
"The Pursuit"

Teacher Eligibility Tests

The University Grants Commission (UGC) will hold an eligibility test for Junior Research Fellowships (JRF) and Lectureships on 24th December, 1989 in Humanities (including languages) and Social Sciences. Similar UGC-CSIR test will be held for Science subjects by the Council of Scientific and Industrial Research (CSIR) and UGC on 31st December, 1989.

The Candidates who have already qualified the JRF examination held by the UGC/CSIR are exempted from appearing in lectureship tests. The candidates who have already done M. Phil and Ph.D. are also exempted from appearing in the test upto December 1990 and December 1992 respectively.

The candidates who qualify in the eligibility tests for lectureship will have to apply to the universities and colleges as and when the vacancies are advertised by them. The candidates who qualify only for lectureship will not be entitled to the award of JRF but the candidates who qualify for the JRF will be considered eligible for lectureship.

The eligibility through these tests does not entitle the candidates for straight away appointment as lecturers and they will have to apply to the advertisements issued by the universities and colleges and get themselves selected as per selection procedure of the universities and colleges concerned.

News from Abroad

AVCC Decries Policy on Overseas Students

The Australian Vice Chancellor's Committee (AVCC) has called on higher education institutions to avoid "gimmickry...gifts and lucky numbers" in attempting to attract full-fee paying students from other countries. The executive director of the committee, Mr. Frank Hambly, said he believed such marketing practices cheapened Australia's education system. He was commenting on changes to Australia's policy on overseas students during the last 10 years. In that decade, Australia's student policy had been turned inside out.

Mr. Hambly said many institutions had rushed to welcome the new full-fee programme, announced in December last year, but had failed to see its full implications. The phasing out of subsidized student programmes meant a reduction in institutional operating grants, a shortfall that had to be made up by attracting independent, full-fee overseas students, or students who have won scholarships.

The financial impact of the government's changes meant that in 1990, operating grants for institutions would fall by almost $22 million in 1991. Mr. Hambly said the whole thrust of the higher education reforms introduced by the federal education minister, Mr. John Dawkins, had been on deregulation with encouragement for institutions to become more entrepreneurial.

Yet the new full-fee policy would make it more difficult for overseas postgraduate students to come to Australia to study. The Education Department offered only 100 or so postgraduate awards and Australian institutions, which in the past had offered their own scholarships, would be out of pocket if they waived regular fees.

Commonwealth Leaders Endorse Plan for Third World

Commonwealth Heads of Government at their recent meeting at Kuala Lumpur have backed plans for a big expansion of their support for higher education in developing countries.

The attending Prime Ministers agreed to :

- step up contribution to the Commonwealth of Learning, the distance learning agency established last year in Vancouver;
- seek funds to set up Commonwealth Higher Education Support Scheme to improve key facilities in Third World universities;
- put the onus on Britain and the other host countries to reverse the decline in student mobility within the Commonwealth.

In their communique the heads of government expressed great concern that the number of students taking courses in other Commonwealth countries was continuing to fall. They have asked host countries to submit their own recommendations for reversing the trend to next year's meeting of education ministers.

That conference will also receive a feasibility study on the support scheme, which is designed to build up centres of excellence in developing countries to minimize the need for students to be sent on costly courses overseas. The Commonwealth Secretariat will convene a meeting of donor agencies to draw up detailed plans.

CALENDAR OF EVENTS

Proposed Dates of the Event	Title	Objective	Name of the Organising Department	Name of the Organising Secretary/Officer to be Contacted
Dec. 4-7, 1989	International Conference of Engineering Software	To deliberate on the recent advances in the software development and associated computational methods for specific engineering applications	Indian Institute of Technology, Delhi	Prof. C.V. Ramakrishnan, Head, Deptt. of App. Mech. IIT, Delhi, Hauz Khas, New Delhi-110016
Dec. 13-15, 1989	13th National Systems Conference—1989	To bring out the various systems methodologies as applied to Engineering, Industrial Economics, and social problems.	Department of Electrical Engineering, IIT, Kharagpur	Prof. M.K. Ghosh, Department of Electrical Engineering, Indian Institute of Technology, Kharagpur-721302
December 30-31, 1989	9th State level Academic Conference of Maharashtra Federation of College Library Associations	To discuss the theme "Modern Trends in Library and Readers	Maharashtra Federation of College Library Associations, Akola	Mrs. Nirmal Hulbe, Librarian & Convener Ahmednagar College, Ahmednagar.
January 3-5, 1990	National Conference on Stochastic Models in Management Science	To appraise the current research on applied stochastic process, use of stochtastic models and their applications in management science.	Indian Institute of Management, Ahmedabad	Dr. N. Ravichandran, Professor, Indian Institute of Management, Ahmedabad-380015.
Jan. 23-25, 1990	Seminar on Woman and Work	To discuss (a) perspectives on women's work and status, (b) women in unorganized and organized sectors, (c) specific issues concerning Scheduled Castes/Tribes Women workers; and role of women's organizations.	Centre for Social Studies, South Gujrat University Campus, SURAT	Dr. Paramjit Singh, Centre for Social Studies, South Gujrat University Campus, SURAT-395-007
April 7-9, 1990	Second Biennial Conference of the Allahabad Mathematical Society.	To promote research in Mathematics, Mathematical Physics and Statistics.	Allahabad Mathematical Society, Allahabad	Professor (Mrs.) P. Srivastava 10, C.S.P. Singh Marg Allahabad

Inter-University Youth Festivals

Results

NORTH ZONE

Events	Best Two Teams Recommended for Nationals
MUSIC	
1. Classical Vocal (Solo)	1. Harjot Singh, Guru Nanak Dev University, Amritsar 2. Richa Pandey, Rohilkhand University, Bareilly (U.P.)
2. Classical Instrumental (Solo) Percussion	1. Kulwant Singh, Guru Nanak Dev University, Amritsar 2. P.N. Kumar, Aligarh Muslim University, Aligarh
3. Classical Instrumental Non-Percussion	1. Pritam Piyari, Dayalbagh Educational Institute, Agra 2. Rajni Tikka, Rohilkhand University, Bareilly (U.P.)
4. Light Vocal (Indian)	1. Panjab University, Chandigarh 2. Sangeeta Sharma, Dayalbagh Educational Institute, Agra
5. Western (Vocal (Solo)	1. Brij Mohan Singh, Jammu University, Jammu 2. Jagdeep Kaur, Panjabi University, Patiala
6. Group Song (Indian)	1. Dayal Bagh Educational Institute, Agra 2. Punjabi University, Patiala
7. Group Song (Western)	1. Dayal Bagh Educational Institute, Agra 2. Rohilkhand University, Bareilly (U.P.)
Best Team Trophy in Music,	D.B. Educational Institute
Runners-up	R.U. Bareilly
B. DANCE	
1. Folk Dance	1. Dayal Bagh Educational Institute, Agra 2. Punjabi University, Patiala
2. Classical Dance	1. Rajee Nagpal, Panjab University, Chandigarh 2. Pritma, Panjab Agricultural University, Ludhiana
Best Team Trophy in Dance	Panjab University, Chandigarh
Runners-up	Panjab Agr. University, Ludhiana
C. THEATRE	
1. One-Act-Play	1. K.U. Kurukshetra 2. G.N.D.U., Amritsar

1	2
2. Skits	1. Thapar Institute of Engg. & Tech., Patiala 2. K.U., Kurukshetra
3. Mime	1. Aligarh Muslim University, Aligarh 2. Jammu University, Jammu
Best Team Trophy in Theatre	K.U., Kurukshetra
Runners-up	P.A.U., Ludhiana
FINE ARTS	
1. On the Spot Painting	1. Baldeep Kaur, Punjabi University, Patiala 2. Saida, Aligarh Muslim University, Aligarh
2. Collage	1. Rohit Awasthi, Dr. Y.S. Parmar University, Solan 2. Viney Verma, C.S. Azad University, Kanpur
3. Poster Making	1. Bharti Vandana, Punjabi University, Patiala 2. Suman Gupta, Jammu University, Jammu
4. Clay Modelling	1. Ravinder Singh, P.A.U., Ludhiana 2. Pankaj Kumar Sharma, C.Z. Azad University, Kanpur
5. Cartooning	1. Rakesh Trehan, Punjabi University, Patiala 2. Shashi Kant Sharma, Dr. Y.S. Parmar University, Solan
Best Team Trophy in Fine Arts :	Punjabi University, Patiala
Runners-up	K.U., Kurukshetra
QUIZ	
Panjab University, Chandigarh Haryana Agricultural University, Hisar	

WEST ZONE

Events	Universities
1. **Music**	
(a) Classical Vocal (Solo)	1. SNDT Women's Univ., Bombay 2. Goa University, Goa
(b) Classical Instrumental (Percussion)	1. Bombay University, Bombay 2. Amravati University, Amravati
(c) Classical Instrumental (Non percussion)	1. Goa University, Goa 2. Jiwaji Univ., Gwalior
(d) Light Vocal (Indian) Solo	1. SNDT, Bombay 2. Bombay University, Bombay
(e) Western Vocal (Solo)	1. Devi Ahilya Vishwa Vidyalaya, Indore 2. Goa University, Goa
(f) Group Song (Indian)	1. Banasthali Vidyapith, Banasthali 2. Rajasthan Vidyapith, Udaipur
(g) Group Song (Western)	1. Bombay University, Bombay 2. Goa University, Goa

1	2
2. **Dance**	
(a) Folk/Tribal	1. Dr. Harisingh Gaur Univ., Sagar 2. Shivaji Univ., Kolhapur
(b) Classical Dance	1. Bombay University, Bombay 2. Banasthali Vidyapith, Banasthali
3. **Literary Events**	
Quiz	1. Amaravati University, Amaravati 2. Bombay University, Bombay
4. **Theatre Events**	
(a) One Act Play	1. Pune University, Pune 2. SNDT Women's Univ., Bombay
(b) Skits	1. Rani Durgavati Vishwavidyalaya, Jabalpur 2. Amravati University, Amravati
(c) Mime	1. Rani Durgavati Vishwavidyalaya, Jabalpur 2. Rajasthan Vidyapith, Udaipur
5. **Fine Arts**	
(a) On the Spot Painting	1. Bombay University, Bombay 2. Banasthali Vidyapith, Banasthali
(b) Collage	1. Raj. Agril. Univ., Bikaner 2. Nagpur University, Nagpur
(c) Poster Making	1. Bombay University, Bombay 2. MLS University, Udaipur
(d) Clay Modelling	1. Nagpur University, Nagpur 2. MLS University, Udaipur
(e) Cartooning	1. Bombay University, Bombay 2. Nagpur University, Nagpur

Itemwise Declaration of Winning Universities

1. **Music**	
(a) Overall Best Trophy	: SNDT Women's Univ., Bombay
(b) Runners up Trophy	: Goa Univ., Goa
2. **Dance**	
(a) Overall Best Trophy	: Bombay Univ., Bombay
(b) Runners up Trophy	: Pune Univ., Pune
3. **Theatre**	
(a) Overall Best Trophy	: Rajasthan Vidyapeeth, Udaipur
(b) Runners up Trophy	: Banasthali Vidyapeeth, Banasthali
4. **Literary Activity**	
(a) Overall Best Trophy	: Amaravati Univ., Amaravati
(b) Runners up Trophy	: Bombay Univ., Bombay
5. **Fine Arts**	
(a) Overall Best Trophy	: Nagpur Univ., Nagpur
(b) Runners up Trophy	: Bombay Univ., Bombay
Overall Championship Trophy :	Bombay Univ., Bombay
Runners up Trophy :	Rani Durgavati Vishwavidyalaya, Jabalpur

AIU Library

Established in 1965, the AIU Library has acquired over the years a valuable collection of books and documents on Higher Education. Among the topics prominently represented are Educational Sociology, Educational Planning, Educational Administration, Teaching & Teachers' Training, Examinations, Economics of Education and Country Studies. Developing fields of Adult Education, Continuing Education and Distance Education, and Educational Technology are also well stocked. The Library is particularly strong in its collection of reports whether they are on the setting up of different universities or on the state of Higher Education. Files of Annual Reports of different universities are also maintained. Readers are kept informed of the latest acquisitions through our column 'Additions to AIU Library'.

The Library also receives about a 100 periodical titles on Higher Education. All these are indexed regularly and a select list appears every month as 'Current Documentation in Education'.

Doctoral Degrees awarded during the preceding month are reported as 'Theses of the Month', while registrations made for such degrees are flashed as 'Research in Progress'. Bibliographies are also compiled and supplied on demand.

Research Scholars and students of education are welcome to use these resources. The Library is open from 9.00 a.m. to 5.30 p.m. Monday through Friday. Access can also be had through inter library loan for which requisition must be made through your Librarian.

THESES OF THE MONTH

A List of Doctoral Theses Accepted by Indian Universities

HUMANITIES

Philosophy

1. Pathik, Rakesh Kumar. *Ramcharit Manas mein gyan, karm aur bhakti ka swarup.* Barkatullah. Dr. Rajshri Agrawal, Department of Philosophy, Hamidia College, Bhopal.
2. Sharma, Rajeev. *Mahatma Gandhi ke chintan per vibhinn dharmon evam vicharakon ka prabhav.* Rohilkhand. Dr. M L. Sharma, K.G.K. College, Moradabad.
3. Singh, Madhuri. *Conception of freedom : Jean Paul Sartre and Karl Marx.* Rohilkhand. Dr. J.P. Atreya, K.G.K. College, Moradabad.

Religion

1. Maunglang, Nanglot. *A study of Buddhism among the national minorities of Yunan (China).* Delhi

Fine Arts

Drawing & Painting

1. Bhatnagar, Anupam. *Mughal chitrakala kee vishay vastu ka mulyankan : Prapta pramukh chitron mein uski sarthakta kee pushti.* Rohilkhand. Dr. K B. Sahani, Bareilly College, Bareilly.
2. Sharma, Rekha Rani. *Kangra aur Kasauli laghu chitron mein shringar paksha ka tulnatmak adhyayan.* Rohilkhand. Dr. S.B.L. Saxena, Bareilly College, Bareilly.
3. Srivastav, Sanjeev Prasad. *Art of Erstwhile Patiala State.* Rohilkhand. Dr. S.B.L. Saxena, Bareilly College, Bareilly.

Music

1. Bagati, Usha. *Kashmiri lok sangeet ka ek adhyayan.* Indira Kala.

Language & Literature

English

1. Azra Sultan. *A study of themes and symbols in the novels of Theodore Dreiser.* Barkatullah. Dr. S. Hamid Husain, Prof., Department of English, M.V. Mahavidyalaya, Bhopal.
2. Chowdhary, Harpreet Kaur. *The epic tradition in the American Novels with special reference to the last of the Mohicans, Moby Dick : An American Tragedy and Gilas Goathboy.* Panjab
3. Desai, Chaitanya J. *Social consciousness in contemporary British drama with special reference to the plays of Wesher, Arden, Bolt Delmay.* Gujarat. Dr. N.M. Rao, Reader (Retd.), Department of English, South Gujarat University, Surat.
4. Kumar, Kamni. *Ernest Hemingway : A study of his short stories.* Rohilkhand. Dr. S. C. Mundra, Bareilly College, Bareilly.
5. Sharma, Durgesh. *The Hemingway Hero : A critical study.* Rohilkhand. Dr. S.C. Mundra, Bareilly College, Bareilly.

6. Varalakshmi, B. *Adventures of consciousness : A study of Sri Aurobindo's works.* Nagarjuna. Prof. S. Krishna Sarma, Department of English, Nagarjuna University, Nagarjunanagar.

7. Venkateswara Rao, Y. *Sri Aurobindo : The poet of spiritual evolution.* Nagarjuna. Prof. S. Krishna Sarma, Department of English, Nagarjuna University, Nagarjunanagar.

Sanskrit

1. Acharyya, Kshitinath. *A critical study of Brahmapurana.* Calcutta.

2. Badge, Kshma Vasant. *Shivrajyodayam Mahakavya ka samalochanatmak adhyayan.* Durgawati. Dr. R.B. Dwivedi, Department of Sanskrit, Rani Durgawati Vishwavidyalaya, Jabalpur.

3. Dabas, Ram Karan. *Pramukha Sanskrit natakon mein Shri Krishna ka manaviya roop.* Delhi.

4. Jain, Bharti. *Acharya Amritchandra Suri : Vyaktitva evam krititva.* HS Gour. Dr. B.C. Jain, Head, Department of Sanskrit, Govt. Post Graduate College, Damoh.

5. Jain, Narendra Kumar. *Jain darshan mein Ratnatraya ka swarup.* Rohilkhand. Dr. Pramod Kumar, Vardhman College, Bijnour.

6. Juyal, Mahesh Chandra. *Kalidas ke kavyon ka darshnik drishti se adhyayan.* Rohilkhand. Dr. R.C. Kandpal, K.G.K. College, Moradabad.

7. Kalpna Devi. *Sanskrit ke Jain sandesh kavya.* Rohilkhand. Dr. Vidyabhushan Sharma, Sahu Jain College, Najeebabad.

8. Karun Lekha. *Critical and comparative study of relationship of Samkhya, Yoga and Vedanata.* Panjab.

9. Neelam. *Sankhya-Yog ka Shaiv darshan per prabhav.* Rohilkhand. Dr. R.C. Kandpal. K.G.K. College, Moradabad.

10. Rajesh Kumar. *A critical study of tattvartha sutra of Umasvati and tikas on it.* Panjab.

11. Rekha Kumari. *A study of Sanskrit semantics upto 7th century A.D. : Based on grammatical works.* Delhi.

12. Saikia, Akon Chandra. *The Rukmini Harana legend in Sanskrit and later Indian literature.* Gauhati. Dr. A.K. Goswami, Reader, Department of Sanskrit, Gauhati University, Guwahati.

13. Saxena, Madhu. *Shivpuran ka darshnik adhyayan.* Rohilkhand. Dr. K.D. Gour, Pracharya, N.M.S.N. Das College, Badaun.

14. Saxena, Mohita. *Vaitan Shrot Sutra ka alochanatmak adhyayan.* Rohilkhand. Dr. (Smt.) Pramod Bala Mishra, Bareilly College, Bareilly.

15. Sharma, Om Prakash. *Achorya Mammat ka alankar vivechan : Pramukh tikaon ke sandarbh mein.* HP.

16. Sharma, Rekha. *Mahakavi Magh ke "Shishupalvadh" evam Mahakavi Ratnakar ke "Harvijay" ka tulnatmak adhyayan.* Rohilkhand. Dr. K. K. Shukla, Bareilly College, Bareilly.

17. Shukla, Prem Narayan. *Sanskrit kavya shastta ka sabda shaktivishayak swatantra granthon kee tulnatmak sameeksha.* Delhi.

Hindi

1. Anita Kumari. *Balmiki Ramayan tatha Tulsidas Ramchatitmanas ka sanstritik mulyankan.* Rohilkhand. Dr. S.P. Sharma, Hindu College, Moradabad.

2. Anokhe Lal. *Amritlal Nagar ke jeewan darshan ke vidhayak tattwa.* Rohilkhand. Dr. V.S. Nagar, Upadhi College, Pilibheet.

3. Asnanai, Lalita Raj. *Viharidas aur unkee kavya sadhana.* Rohilkhand. Dr. J.N. Agrawal, Upadhi College, Pilibheet.

4. Bhatnagar, Sadhna. *Hindi radio natak : Kathya evam shilpa, 1951-75.* Delhi.

5. Chaturvedi, Neeta. *Yashpal : vyaktitva evam gadya shilpa.* Rohilkhand. Dr. Gyanvati Agrawal, G.D.H.G. Girls College, Moradabad.

6. Dalal, Hira Yashwant. *Sathhottar Hindi kahaniyon mein loktantrik jeewan chetna ka vikas.* Ghasidas. Dr. R.D. Saxena.

7. Gajendra Singh. *Bhartiya kavyashastra kee drishti se Prasad ke katha-sahitya ka adhyayan.* Rohilkhand. Dr. G.S. Agrawal, Vardhman College, Bijnour.

8. Gour, Rashmi Rani. *Kamayani, Urvashi aur Lokayatan ke manstattwa ka tulnatmak adhyayan.* Rohilkhand. Dr. P.P. Rastogi, Bareilly College, Bareilly.

9. Jain, Surendra Kumar. *Rasanahchariu : Ek sameekshatmak adhyayan.* Rohilkhand. Dr. P.C. Jain, Sahu Jain College, Nazeebabad.

10. Krishna. *Satven dashak ke Hindi upanyason mein sukh kee avdharna.* Hyderabad. Dr. Noorjahan Begum, Department of Hindi, University of Hyderabad, Hyderabad.

11. Maheshwari, Mithlesh. *Hindi kee hasya vyangya kavya-dhara aur Kaka Hathrasi ka hasya-vyangya sahitya.* Rohilkhand. Dr. G.S. Agrawal, Vardhman College, Bijnour.

12. Mudaliyar, Sarla. *Nagarjun ke kavya ka kalapakshiya anusheelan.* Ghasidas. Dr. Jagmohad Mishra.

13. Naresh Kumar. *Athvan dashak kee Hindi kahani : Samagra adhyayan.* Rohilkhand. Dr. S.P. Saxena, K.G.K. College, Moradabad.

14. Prashar, Ravinder Mohan. *Hindi kee baudhik sangyaon ka vishleshanatmak adhyayan.* Panjab.

15. Priyamwada, Manisha. *Madhyavarg ke sandarbh mein samkaleen mahila upanyas lekhan.* Panjab.

16. Sarmah, Mahabir Prasad. *Ayurveda In Hindi literature,* Gauhati. Dr. D. Deo Tiwari, Reader, Department of Hindi, Gauhati University, Guwahati.

17. Saxena, Bharati. *Kathakar Amritrai : Kathya aur shilp.* Rohilkhand. Dr. S.C. Gupta, Bareilly College, Bareilly.

18. Tiwari, Harishankar. *Hamirpur Janpad ke lok sahitya ka sahityik evam sanskritik adhyayan.* Rohilkhand. Dr. K.C. Mishra, S.M. College, Chandausi.

19. Tokekar, Vandana. *Hindi bhashi kshetra ke pramukh ahindi bhasiyon kee dwibhashikta ka samaj bhasha vaigyanik adhyayan : Natyattar Bharatiya Arya Bhasha parivar kee bhashaon ke vishesh sandarbh mein : Jabalpur Nagar ke adhar par.* Durgawati. Dr. T.N. Shukla, Department of Hindi, Rani Durgawati Vishwavidyalaya, Jabalpur.

Urdu

1. Mohammad Sibghatulla. *Critical evaluation of Gavasi's masnavies.* Bangalore. Dr. Fahmida Begum, Director, Bureau for Promotion of Urdu, Ministry of Human Resource Development, Department of Education, R.K. Puram, West Block, New Delhi.

2. Norain, Zareena Karim. *Shankat Thanvi : Hayat, shakshiyat aur karname.* Nagpur. Dr. M.A. Rahmatullah, Department of Urdu and Persian, Institute of Arts and Social Sciences, Nagpur.

3. Siddiqui, Abdul Sami. *Prem Chand ke novelon ka homainda kirdar : Ek Tazziyati motalea.* Bihar. Dr. A. Wasey, Prof., Department of Urdu, University of Bihar, Muzaffarpur.

Bengali

1. Das, Atul Kumar. *A study in the epistolary novels in Bengali, the role and use of epistles in the novels of Bengali literature : A critical evaluation.* North Bengal.

Oriya

1. Pradhan, Simanchal. *Oriya loka sahityare nari.* Berhampur. Dr. Sudarsan Acharya, Prof., Department of Oriya, Berhampur University, Berhampur.

Marathi

1. Bonde, Dnyadeo Hari. *Raghvi boliche bhasha vaigyanik adhyayan.* Nagpur. Dr. S.B. Kulkarni, Head, Department of Linguistics and Indian and Foreign Languages, Nagpur University, Nagpur.

Tamil

1. Amirthavalli, A. *Sangha elakhiathill Thirumal neri.* Madras.

2. Arulanandham, S.P. *Sangha paadalgalill karu purulin thakkam : Vilangugalparavaigal.* Madras.

3. Doraipandi, K. *Pudhu kavidhaigalill kaadal patri kotpadu.* Madras.

4. Jabbar, A.R. Abdul. *Vannakkalanjia pulavarin erasanayakamum pira padaippugalum oru aaivu.* Madras.

5. Sivasakthi, P. *Ve. Saminatha Sarmavin Thamizh pani.* Madras.

6. Sundar, E. Joseph. *Kumudathin vadivamaippu.* Madras.

7. Vani, V. *Kovi Manisekaran Siru Kadhaigaloru thiranaivu.* Madras.

8. Vinayagam, C. *Bharati, Bharathidasan paadalgalil nattuppura eyakkathakkam.* Madras.

Kannada

1. Kopra, Siddappa Kotreppa. *Tardawadi Nadu-Ondu adhyayana.* Karnatak. Dr. G.S. Kapse, Reader (Retd.), Institute of Kannada Studies, Karnatak University, Dharwad.

Telugu

1. Anantalakshmi, N. *Telugu sahityamu to Radha tatwamu.* Osmania.

2. Nagaranjani, T.V. *Adhunik Telugu rachaitrula navalalu samajika avagahana.* Hyderabad. Dr. C. Ananda Lakshmi, Reader, Department of Telugu, University of Hyderabad, Hyderabad.

3. Rajendra Prasad, K.R. *A critical study of Veerabhadra Vijayamu.* Venkateswara. Dr. C.C. Ramanaiah, Department of Telugu, B.T. College, Madanapalle.

4. Sitaramamma, C. *Taliapakavari Sakitianu : Samkaleena sanchika jeevanamu.* Venkateswara.

5. Yella Reddy, P. *Telanganalo Yakshaganamu-Racana prayogamu.* Osmania.

Geography

1. Deolia, Rajendra Kumar. *Ecology and spatial distribution of medicinal plants in the Upper Narmada Basin.* HS Gour. Prof. V.C. Misra, Reader, Dr. Harisingh Gour Vishwavidyalaya, Sagar.

2. Kapur, Anu. *Ecological implications of changing land use pattern in the Kashmir Valley.* Delhi.

3. Parihar, Premandra Kumar. *Ecological aspects of rural housing in Panjab.* Delhi.

4. Rajendra Singh. *Sanjai Basin : A study in land forms and human settlements.* Rohilkhand. Dr. S.P.S. Yadav, S.M. College, Chandausi.

5. Sunil Kumar. *The geographical study of functional structure of Moradabad City.* Rohilkhand. Dr. Het Ram Singh, Hindu College, Moradabad.

6. Verma, Vijai Kumar. *Problems and patterns of land utilisation in Ganga-Gandak Doab.* Bihar. Dr. R.N. Singh, Prof., Department of Geography, Bihar University, Muzaffarpur.

7. Zaidi, Syed Abu Mohammad. *Geographical analysis of urbanization and socio economic changes in Periurban Villages of Moradabad City during last two decades.* Rohilkhand. Dr. R.B. Saharia, Hindu College, Moradabad.

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1. Bhardwaj, Ram Parshad Rattan. *A study of the Gupta coins.* Panjab.

2. Firdousi, Rizwana. *Emancipation of women in Hyderabad with particular reference to Muslim women, 1911-48.* Osmania.

3. Hymavathy, P. *Ayurveda in medieval Andhradesa, 14th C-17th C.* Osmania.

4. Madhu Bala. *Peasantry of Gupta India, 320-550 A.D.* Panjab.

5. Manikumar, K.A. *Economic depression and its impact : The Tamilnadu experience, 1929-1937.* Madras.

6. Sambaiah, O. *Vaisnavism in Andhradesa, AD 1000 to 1600 : A historical study.* Nagarjuna. Dr. B. Rajendra Prasad, Department of History and Archaeology, Nagarjuna University, Nagarjunanagar.

7. Sharma, Sukhdev Raj. *East India Company ke samay mein Angrej shaskon aur Avadh ke nawabon ke apsi sambandh: Ek alochanatmak adhyayan.* Rohilkhand. Sri P.C. Saxena, Bareilly College, Bareilly.

8. Sinha, Arvind. *Anglo-French Commerce along the Coromandel Coast, 1763-1793.* Delhi.

9. Subherwal, Gita. *The contribution of the liberals to the freedom movement.* Barkatullah. Dr. I.S. Mehta, Devi Ahilya Vishwavidyalaya, Indore.

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Mazumdar, Aurobindo. Journalism education in India. *The Assam Tribune* 1.10.89.

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———. Scientific research is in a mess. *The Times of India* 7.10 89.

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Vaidyanathan, Lalitha. Biocontrol research completes 100 years. *The Assam Tribune* 23.10.89.

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Sharma, Dinesh Chandra. Narayana Reddy : Youngest Gyanpeeth Winner. *Free Press Journal* 22.10.89.

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NATIONAL INSTITUTE OF HYDROLOGY

JALVIGYAN BHAWAN, ROORKEE

Dated : 01-11-1989

No. 4/89-NIH (ADMN)

Applications are invited for the following posts in National Institute of Hydrology (A Government of India Society) Roorkee from Indian Nationals satisfying qualifications and experience laid down therefor. 2 posts for Scheduled Caste and 1 post for Scheduled Tribe candidates are reserved in the category of Scientist-E.

1. SCIENTIST 'E' : 10 Posts in the following areas :

(a) Surface Water Hydrology/Conjunctive Use . . . 6 posts
(b) Drainage/Drought Studies . . . 2 posts
(c) Atmospheric Land Surface Process Modelling. . . . 1 post
(d) Hydrological Investigation . . . 1 post

Scale of Pay : Rs. 3700-125-4700-150-5000.
Total emoluments at the initial of the scale is Rs. 4890-00 excluding HRA/ CCA.

Age : Below 45 Years.

Qualifications : Essential

1. M.E./M.Tech. in Water Resources/Hydraulics/Irrigation/Hydrology/Soil and Water/Environmental/Electronics/Computer/Remote Sensing with 60% or 7.0/10.0 CGPA in both B.E./B.Tech. and M.E./M.Tech. Examinations.

OR

Ph.D. degree in Physics/Chemistry/Geology with specialisation in Instrumentation/Nuclear Physics/ Water Quality/Remote Sensing with 60% or 7.0/10.0 CGPA in M.Sc. Examination.

2. At least 10 years experience in teaching/research/design/investigation and planning of which at least 5 years experience must be at the Scientist 'C' or equivalent level (pay scale of Rs. 3000-4500) with proven ability of conducting and guiding research and with experience in handling applied research problems.

Desirable

1. Ph D. in Engineering for Engineering post-graduate and post doctoral work for Ph.D. in Science.
2. Publications in reputed national and international journals.
3. Corporate membership of professional, scientific and engineering associations/societies.

2. SCIENTIST-C : Computer Centre . . . 1 post

Scale of Pay : Rs. 3000-100-3500-125-4500. Total emoluments at the initial of the scale is Rs. 4020/- excluding HRA.

Age : Below 40 years

Qualifications : Essential

1. A Master's degree with specialisation in electronics/computer science with minimum of 60% marks or 7.0/10.0 CGPA or equivalent in both B.E./B.Tech. and M.E./M.Tech.

OR

Ph.D. degree in Physics with specialisation in Electronics or Computer Science with 69% or 7.0/10.0 CGPA in M.Sc. Examination.

2. At least 5 years experience in teaching/research/design and planning of which at least 5 years experience must be at the Scientist-B or equivalent level (Pay scale of Rs. 2200-4000) with proven ability.

Desirable

Experience of managing main frame computer systems with multi user facilities in reputed organisations.

Note—1 : Time spent on Ph.D. for engineering graduate/post-graduate shall be considered as experience upto a maximum period of 3 years.

Note—2 : The qualifications regarding experience is relaxable at the discretion of competent authority in the case of candidates belonging to SC/ST, if at any stage of selection the competent authority is of the opinion that sufficient number of candidates from these communities possessing the requisite qualifications are not likely to be available to fill up the vacancies reserved for them.

Note—3 : Selected persons can be appointed on deputation basis also.

Note—4 : The applicants who had applied against the advertisement No. 1/89-NIH (Admn.), dated January 16, 1989 and fulfil the qualifications as indicated above need not apply again. Their applications, submitted earlier, would be considered alongwith the applications received through this advertisement.

The above mentioned posts carry usual allowances as admissible under the Central Government Rules. Age will be relaxable for persons already in service in the Institute and other Government/Semi-Govt./Autonomous Organisations as well as candidates belonging to SC/ST community, retrenched employees or Defence services and Physically handicapped persons, as per rules of the Government of India.

Age will be determined as on 8-12-1989.

Persons already employed in Govt./Semi-Govt./Autonomous Bodies should apply through proper channel. Application not forwarded through proper channel may not be considered.

Candidates applying for more than one post should use separate application form for each post and remit fees separately for each post.

Application forms may be obtained by 24-11-89 from Chief Administrative Officer, National Institute of Hydrology, Jal Vigyan Bhawan, Roorkee-247667 (UP) by sending a self-addressed envelope of the size 12 x 28 cms. Application forms duly completed in duplicate with copies of all testimonials alongwith an application fee in the form of Indian Postal Order of Rs. 8/- (SC/ST candidates are exempted from payment of fee) payable to the National Institute of Hydrology at the Roorkee University Post Office should reach the Administrative Officer, National Institute of Hydrology, Jal Vigyan Bhawan, Roorkee 247667 (UP) on or before **8-12-89.**

JOB LOCATION : ANYWHERE IN INDIA

SANJAY GANDHI POST GRADUATE INSTITUTE OF MEDICAL SCIENCES

POST BOX NO. 375, RAE BARELI ROAD,
LUCKNOW-226 001 (UP)

Advertisement No. 95/90 **Closing Date : December 7, 1989**

ADMISSION TO M.D. TRANSFUSION MEDICINE COURSE*

Applications are invited for admission to M.D. course in Transfusion Medicine. The selection will be done on all India Basis and the candidates will be selected strictly on merit determined on the basis of selection test consisting of written examination followed by Viva-Voce and interview.

Duration of the course will be three years after M.B.B.S. Those holding M.D./M.S., Diploma in Immunohaematology and Blood transfusion or three years experience in Blood Transfusion or other experience according to the rules of the Medical Council of India will have relaxation for one year.

Criteria for admissions will be as follows :

1. **QUALIFICATION**
   (a) M.B.B.S. degree or equivalent recognised by the Medical Council of India.
   (b) Registered with the Medical Council of India.
2. Age on 1.1.1990—30 years.
3. Good academic record.

Those desirous of applying for the course may send applications on plain paper latest by **7th December, 1989** supported by the following documents. In service candidates should send their applications through proper channel.

(i) Certificate for date of birth.
(ii) Qualifications with year of passing the examinations and marks obtained.
(iii) Experience certificate.
(iv) Academic record of under graduate career and attempts at various professional examinations.
(v) Bank draft for Rs. 200/- payable to SGPGI, Lucknow.

Written test will be held on **20th December, 1989** and Viva Voce & interview on **21st December, 1989 at SGPGI Campus**, Lucknow. Selected candidates having M.D./M.S. qualifications will receive emoluments of Senior Residents. Others will receive the emoluments of Research Fellows.

*Not yet approved by M.C.I.

DIRECTOR

INDIAN INSTITUTE OF MASS COMMUNICATION

NEEDS

RESEARCH ASSISTANTS

Qualifications : Essential : (i) First or High Second Class Master's Degree in Social Sciences such as Communication, Psychology, Sociology, Anthropology from a recognised University. (ii) Two years Research experience in Communication or allied Social Sciences. **Desirable :** (i) Diploma/Certificate/Training in Research Methodology from a University or a recognised Institute. (ii) Diploma in Mass Communication/Journalism from recognised Institute. (iii) Knowledge of data processing and statistics.

No. of Posts : Two

Reservation : One post reserved for SC and another unreserved.

Scale of Pay : 1400-2300.

Age : (as on 30.11.1989) below 35 years for SC candidates and below 30 years for others.

Applications : Application forms can be obtained from the Assistant Registrar, Indian Institute of Mass Communication, Shaheed Jit Singh Marg, JNU New Campus, New Delhi-110067, either in person with a demand draft for Rs. 20 drawn in favour of "Indian Institute of Mass Communication, New Delhi" or by sending demand draft by post together with a self-addressed and stamped (Re. 1/-) envelope (27×13 cms). *SC candidates need not send any Demand Draft, they should send an attested copy of the caste certificate alongwith the request for application form.*

Those who applied in response to earlier advertisements need not apply again.

Payment of Travel : Single second class rail fare (or bus fare, where there is no train link) from place of residence to Delhi by the shortest route to SC candidates only.

Last Date : Applications complete in all respects, should reach the Assistant Registrar on or before **27.11.89.**

davp 77/(5) 89

NATIONAL INSTITUTE OF EDUCATIONAL PLANNING AND ADMINISTRATION

17-B, SRI AURBINDO MARG, NEW DELHI-110016

Applications are invited by 24-11-89 for four posts of Project Asstts. (3 for 12 months and 1 for 21 months) at a consolidated salary ranging between Rs. 2200-2500 p.m.

(I) Project on Districtwise Analysis of the Disparity between the Literacy Levels of Scheduled Castes and Non-Scheduled Population in India.

Essential Qualifications

At least 2nd class Master's degree in Economics / Education/Geography/Social Sciences or disciplines allied to educational planning and administration.

Desirable

(i) Adequate experience in collection, compilation and analysis of data / material related to educational development of Scheduled Castes.

(ii) Use of Computers for data processing.

(II) Project on Management of Autonomy in Educational : A study of Autonomous Colleges.

Essential Qualifications

At least 2nd class Master's degree in Economics / Education/Political Science / Sociology / Psychology / Management or disciplines allied to educational Planning and Administration.

Desirable

(i) Experience in data collection, data tabulation, analysis and report writing.

(ii) Use of Computers for data processing.

Age : Below 30 years as on 31-10-89.

Completed applications neatly typed on plain paper giving full particulars of bio-data should reach the undersigned latest by **24-11-1989.**

R.P. Saxena
REGISTRAR

LIBRARIAN

"Applications, in the prescribed form available in the College office, are invited for the post of a Librarian in Kapila Khandvala College of Education, Juhu Road, Santa Cruz (West), Bombay-400 054, immediately. Qualification as per the requirement of U.G.C. and scales as approved by the Government. Apply on or before **30-11-1989** to the Principal."

GAUHATI UNIVERSITY

GUWAHATI-14

Corrigendum of Advertisement No. 11 of 1989

The last date of submission of application is extended upto 30.11.89.

D.C. Baroowa
REGISTRAR

THE UNIVERSITY OF BURDWAN

RAJBATI, BURDWAN
WEST BENGAL

Corrigendum to Advt. No. 8/89-90
Dated : 4-10-1989

One of the Posts as indicated at 'A' the post of Reader in Business Administration with specialization in Personnel Management may be taken to be 'lien bound but likely to be permanent'.

The last date for submission of applications for the Post is extended upto 25th November, 1989.

Milan Chatterje
REGISTRAR

Sanjay Gandhi Post Graduate Institute of Medical Sciences

POST BOX NO. 375, RAE BARELI ROAD,
LUCKNOW—226 001 (U.P.)

CORRIGENDUM TO ADVERTISEMENT NO. 91

Non medical applicants can also be considered for **Ph. D.** in disciplines of Neurology, Gastroenterology and Nuclear Medicine towards Ph.D. in Life Sciences.

Other terms and conditions for the advertisement will remain same.

Prof. B.B. Sethi
DIRECTOR

UNIVERSITY OF KERALA
TRIVANDRUM 695 034

No. PR. 2551/(5)/1989 Dated : 27.10.1989

NOTIFICATION

Applications are invited from qualified candidates for appointment to the following posts in the University :

Sl. No.	Name of Post	Dept.	No. of Posts	Scale of Pay	Remarks
1.	Director	Oriental Research Institute & Manuscripts Library	1	Rs. 2450-3600	Reserved for Ezhava Community
2.	Professor	Institute of English	1	2450-3600	-do-
3.	Professor	Botany	1	2450-3600	Open Merit
4.	Professor	Economics	1	2450-3600	-do-
5.	University Librarian	University Library	1	2450-3600	Reserved for Ezhava Community
6.	Asst. Editor	Malayalam Lexicon	2	1950-2950	One post. Open Merit. One post: Reserved for Ezhava Community
7.	Reader	Economics	1	1950-2950	Post Temporary; reserved for SC/ST
8.	Lecturer	Institute of English	1	1300-2725	Open Merit
9.	Lecturer	Aquatic Biology & Fisheries	1	1300-2725	Leave Vacancy Open Merit
10.	Asst. Director	Physical Education	1	1300-2725	Open Merit
11.	Artist Photographer	Zoology	1	975-1720	Open Merit
12.	Laboratory Technician	Health Centre Kariavattom	1	780-1320	Open Merit
13.	L.D. Typist	University Service.	To be assessed	675-1125	Appointments will be made in accordance with the rules relating communal rotation.

Note : In the case of reserved posts, candidates belonging to the respective reserved community alone need apply.

Application forms and other details regarding age, qualifications, etc. can be had from The Deputy Registrar (Administration), University of Kerala, Trivandrum 695 034 on requisition submitted along with S.B.T. Challan receipt (K.U.F. Account) for Rs. 100/- in respect of posts 1 to 7, Rs. 50/- in respect of posts 8 to 10, and Rs. 15/- in respect of posts 11 to 13 (in the case of candidates residing inside the State). Candidates from outside the State may submit Crossed Indian Postal Order for the amount, payable to the Finance Officer, University of Kerala, Trivandrum, instead of SBT challan receipt.

The last date for receipt of filled in applications in the University Office is **5th December, 1989.**

Prof. S.K. Rajagopal
REGISTRAR

ANNA UNIVERSITY
MADRAS 600 025

Advertisement No. 001/L3/89-6
Dated : 21.10.89

Applications in the **prescribed form** are invited for the following posts in this University. Application form, details of prescribed qualifications/field of specialisation and other particulars can be had from the REGISTRAR, ANNA UNIVERSITY, MADRAS-25 on application accompanied by a crossed Indian Postal Order for Rs. 20/- (Rupees Twenty only) dated not earlier than **24.10.89** drawn in favour of the Registrar, together with a stamped self-addressed envelope (Rs. 2.00) of size 22 x 10 c.m.

Details of Posts

I. DIVISION OF MINING ENGINEERING
Assistant Professor
Lecturer

II. DEPARTMENT OF MATHEMATICS
Professor
Assistant Professor

III. DEPARTMENT OF PRODUCTION TECHNOLOGY
Professor
Assistant Professor

IV. DEPARTMENT OF PHYSICS
Professor
Assistant Professor

Scale of Pay

Professor	—Rs. 4500-150-5700-200-7300*
Assistant Professor	—Rs. 3700-125-4950-150-5700*
Lecturer	—Rs. 2200-75-2800-100-4000*

*In addition to Pay, D.A., A.D.A., H.R.A. and C.C.A. are admissible at the rates in force from time to time.

Request for application form, details of qualifications, conditions of service and other particulars will be entertained upto 20.11.89.

Last date for receipt of completed application is **24.11.89.**

REGISTRAR

THIS WAS THE MAN

He loved India and the Indian people with all his mind and heart, and they, in turn, gave him of their love most abundantly and extravagantly.

To the down-trodden, to the underprivileged, to the oppressed, he became the very personification of freedom.

"How can a nation rise, if half the nation, if our womenkind lag behind?" He posed this question and worked incessantly for the uplift of Indian women.

"I want work and work and work. I want achievement. I want men who work as crusaders"

Building India was His Passion

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Printed by Navchetan Press (P) Ltd. at Navjeevan Printers, I-E/2, Jhandewalan Extension, New Delhi-110055. Tel. 529157